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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/067,708	02/04/2002	Richard N. Wright	B-108	7476

7590

07/08/2003

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EXAMINER

JOHNSTON, PHILLIP A

ART UNIT

PAPER NUMBER

2881

DATE MAILED: 07/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/067,708

Applicant(s)

WRIGHT ET AL.

Examiner

Phillip A Johnston

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 April 2003.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 13, 16, 18, 20, 23, 24, 26 and 35 is/are rejected.
- 7) ☒ Claim(s) 2-12, 14, 15, 17, 19, 21, 22, 25, 27-34 and 36-42 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

***Detailed Action***

***Claims Rejection – 35 U.S.C. 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1,13,16,20,26 and 35 are rejected under 35 U.S.C. 102(a) as being anticipated by U.S. Patent No. 6,258,185 to Branagan.

Branagan (185) discloses with reference to the block diagram of FIG. 1. At an initial step (A) a molten alloy is formed. Such alloy comprises a steel composition. An exemplary alloy comprises at least 50% Fe, at least one element selected from the group consisting of Ti, Zr, Hf, V, Nb, Ta, Cr, Mo, W, Al, La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, and Lu; and at least one element selected from the group consisting of B, C, N, O, P and S. Particular compositions of the alloy are listed in Table 1. The alloy of step (A) can be formed by, for example, melting a composition under an argon atmosphere.

Branagan (185) further discloses in FIG. 6, a metallic melt 102 is sprayed onto substrate 100 utilizing a sprayer 104. Melt 102 can comprise, for example, a molten alloy of Fe<sub>68</sub> Cr<sub>4</sub> Mo<sub>7</sub> P<sub>12</sub> B<sub>6</sub> C<sub>3</sub>. Alternatively, material 102 can comprise a powder

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material heated to a sufficient temperature to bond with the metal of layer 100.

Material 102 deposits on substrate 100 to form a layer 106.

Referring to FIG. 8, subsequent treatments of the type illustrated in FIG. 6 can be utilized to form multiple heat-treated layers 120 and an exposed outer surface layer 124. Note that one of the lower heat-treated layers 120 is previous layer 106. The subsequent formation of another metallic glass layer over layer 106 has heat-treated the entire layer 106. In particular embodiments wherein layer 106 comprises a metallic glass, such heat treatment can devitrify layer 106. Accordingly, heat treated layers 120 can comprise devitrified metal layers.

Outermost layer 124 is not heat-treated, and can comprise a metallic glass. Accordingly, the method of the present invention has enabled an exterior coating to be formed over layer 100, with said exterior coating comprising devitrified metal layers 120 and an outermost surface of metallic glass 124. See Column 7, line 14-54

Branagan (185) also discloses a modified steel alloy was formed by charging to an arc-furnace suitable amounts of iron, titanium, chromium, molybdenum, boron, carbon, silicon, aluminum, and gadolinium. See Column 4, line 15-30; and Column 8, line 8-12.

3. Claims 18, 23 and 24 are rejected under 35 U.S.C. 102(a) as being anticipated by U.S. Patent No. 6,125,912 to Branagan.

Branagan (912) discloses a neutron absorbing material and a method of making neutron absorbing materials, where the method comprises providing a base alloy

composition consisting of one or more rare earth elements and a transition metal selected from the group consisting of iron, cobalt, nickel, copper, silver and mixtures thereof. The base alloy composition is heated to a temperature above its melting temperature and rapidly solidified to form ribbons having amorphous and nano/microcrystalline structure. Preferably the rare earth elements are selected from the group consisting of gadolinium, samarium and europium. In an alternate embodiment of the present invention, the base composition melt can be rapidly solidified using atomization methods to form particulates. In a further embodiment of the present invention, the base alloy composition can be further comprised of an interstitial element selected from the group consisting of boron, carbon, silicon and phosphorous. See Column 1, line 62-67, and Column 2, line 1-12.

### ***Claims Objection***

4. Claims 2-12, 14,15,17,19, 21,22, 25, 27-34, and 36-42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


**Conclusion**

5. Any inquiry concerning this communication or earlier communications should be directed to Phillip Johnston whose telephone number is (703) 305-7022. The examiner can normally be reached on Monday-Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor John Lee can be reached at (703) 308-4116. The fax phone numbers are (703) 872-9318 for regular response activity, and (703) 872-9319 for after-final responses. In addition the customer service fax number is (703) 872- 9317.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.

PJ

June 20, 2003

  
JOHN R. LEE  
SUPERVISORY PATENT EXAMINER  
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